Application of Robert Getts
Serial No. 09/802,162 filed 3/8/2001
Response of 12/28/2005 to Office Action of 6/28/2005

Remarks

Receipt is acknowledged of the Office Action of June 28, 2005 in the above-captioned matter. Reconsideration of the application and a three month extension of the time provided for a response are requested. The Commissioner is hereby authorized to charge Deposit Account 50-1604 for all amounts required in connection with the present application and response.

In the Office Action, claims 1-26 and 27-34 were rejected as being obvious under 35 U.S.C. §103(a) based on a combination of Dellinger et al. (U.S. Patent No. 5,853,993) with Nilsen et al. (U.S. Patent No. 5,487,973). Reconsideration of the rejections is respectfully requested.

It is submitted that one of ordinary skill in the art would not be motivated to combine the teachings of Dellinger with Nilsen. Claims 1 and 18 recite the use of a dendrimer having a first arm comprising a label and a second arm having a second nucleotide sequence, the second nucleotide sequence being used to bind the capture sequence of any one of the cDNA reagents. The Dellinger reference is directed to a method which uses homopolymeric sequences, whether a poly-A sequence or so forth. *See e.g.*, Dellinger, col. 6 lines 17-21. If such a homopolymeric region was used as the capture sequence, as asserted in the Office Action, numerous problems would be expected to result.

For example, it is to be noted that homopolymeric sequences are common in biologically obtained nucleic acids. *See e.g.*, Behe, M.J. Biochemistry, 1987 Dec 1, 26:7870-5. The use of Dellinger's homopolymeric sequences can, therefore, result in hybridizations between the capture sequence and sequences bound to the array. Thus, the asserted use of the homopolymeric sequences of Dellinger as the capture sequence for the dendrimers of Nilsen would be expected to result in non-specific hybridizations, a significant disadvantage. If one of ordinary skill were to modify Nilsen, he or she would want to avoid non-specific hybridizations, not promote them. Accordingly, one of ordinary skill would not be motivated to combine Dellinger and Nilsen as asserted.

In addition, although the Office Action indicated that the limitations of the various dependent claims are obvious over the art of record, it is respectfully submitted that this is not the case. For example, with respect to the claims directed to multiple channel assays, a three channel assay would require three different capture sequences. However, the Dellinger method would allow only two types of homopolymeric tails (a stretch of adenine bases would hybridize with thymines, while a stretch of

cytosines would hybridize with guanines). Therefore, combining Dellinger and Nilsen as asserted in the Office Action would not provide a three or more channel approach (i.e. three or more common capture sequences), as required by claims 28, 30, 32, and 34.

Similarly, claims 2 and 22 are directed to a reverse transcriptase method wherein the RT primer itself includes the capture sequence. (A minor amendment to the claims clarifying this has been made as set forth above). In this manner, reverse transcription automatically incorporates a common capture sequence into the cDNAs. No citation for this has been provided by the Examiner in any of the art of record, nor in any combination of art.

Several additional new dependent claims (claims 35-42) have been added as well. These claims are patentable for all of the reasons set forth above with respect to the independent claims.

In addition, claims 35-38 are also patentable since they recite the use of more than one type of base in the capture sequence (i.e. two different purine bases, or two different pyrimidine bases, or at least one purine and at least one pyrimidine). This is contrary to the teachings of Dellinger which require homopolymeric regions, i.e. sequences made up of a single type of purine or pyrimidine base.

New claims 39-40 have also been added to recite one of the preferred uses of the invention, namely, expression analysis. New claims 41-42 have been added to recite conduct of the method to produce hybridization of the dendrimer to the capture sequence such that each positive signal on the microarray can be counted to obtain quantitative information about the genetic profile of said sample.

In addition, a minor change has been made to claims 1 and 18 which slightly improves their readability.

In view of the above, withdrawal of the rejections under 35 U.S.C. §103(a) is respectfully requested.

In the Office Action, provisional double patenting rejections were set forth as well. As those are the only remaining rejections, it is respectfully requested that they be withdrawn pursuant to the provisions of the Manual of Patent Examination Procedure. *See,* MPEP §804 I.B. (8th Ed. Aug. 2001, May 2004 Rev., p. 800-19) ("If the "provisional" double patenting rejection in one application is the only rejection remaining in that application, the examiner should then withdraw that rejection and permit the application to issue as a patent, thereby converting the "provisional" double patenting rejection in the

other application(s) into a double patenting rejection at the time the one application issues as a patent.")

Accordingly, it is respectfully requested that all of the pending rejections be withdrawn and that the present application be forwarded to allowance.

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Respectfully submitted,

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